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THE ARMY MEDICAL SERVICE AND THE PREVENTION OF VENEREAL DISEASE.[1]

By **B. T. Zwar, M.D., M.S. (Melb.).**
Honorary Surgeon, Melbourne Hospital.

The subject of this paper is one of interest to the Army Medical Service and to the medical profession in general. To the medical profession it is a subject of interest at all times, but especially at the completion af a campaign, a period, as a rule, marked by an increase in the prevalence of venereal disease amongst the civil population.

Any improvement in combating venereal disease should come from the medical profession, whether it is the Army Medical Section or not is immaterial.

Most of my remarks which are to follow, are based on experiences and statistics gained on active service and in the training of Army Medical Corps units.

I wish to thank Colonel Sturdee, Principal Medical Officer of the Third Military District, for permission to use the same. I have purposely awaited the return of a number of men who have taken a keen interest in this subject whilst on active service. I hope the profession will receive the benefit of their experiences in regard to it.

In one of his dispatches to the Admiralty Lord Nelson expressed himself as follows:—"You will agree with me that it is easier for us to keep men healthy than for a physician to cure them."

May I, to begin with, cite a few figures to show how the rôle "to keep men healthy" has fallen to the Army Medical Service. I will take one disease only, the enteric fever group of infections, to show the remarkable achievements of the medical service in this direction.

In the campaign of United States of America and Spain, 968 died of wounds and 5438 died from disease. Of these 5438 deaths from disease more than half were due to enteric fever.

The death rate of the South African war was:—From wounds approximately 7000, and from disease approximately 14,000; and of these 14,000 no less than 8,022 were caused by the enteric fever group of infections. In addition to this, 19,454 patients were invalided and 30,208 were returned to duty or were discharged on account of enteric fever.

In the present war the Army Medical Service has practically eliminated death due to the enteric fever group of infections. The same is true of a number of other infective diseases.

Notwithstanding these successes, the Army Medical Service has relatively failed in regard to venereal disease. Yet the relation of venereal disease to fitness for service is one of tremendous importance. Statistics may be misleading and figures are always open to question but, I am sure, there is no doubt that the prevalence of venereal disease in the Australian Imperial Force, at any rate during the early days, was unduly high. The No. 2 Australian Stationary Hospital, during its stay in Egypt, was detailed to take charge of venereal cases at Mena Camp. A hospital for 200 patients was opened on January 26, 1915. On January 29 the accommodation had increased to 300, on January 30 to 450, and on February 19, 1915, to over 500. From then on until the departure for Gallipoli, between 500 and 600 patients suffering from venereal diseases were constantly in hospital. It was estimated that with patients who were being treated elsewhere, and those convalescing and doing light duty, etc., etc., between 600 and 800 were constantly off full duty on account of venereal infection. These figures refer to Mena Camp alone. Other camps had their venereal diseases hospitals, but I have no knowledge in regard to their figures. It was estimated that the invalidity or "constantly sick" rate on account of venereal disease amounted to from 4% to 5%.[1]

The prevalence of venereal disease in the Australian Imperial Force was not due to absence of effort to combat this disease, but, as a rule, such effort was untrained and lacked organization. My records taken at the venereal diseases hospital at Mena Camp are evidence of this. This hospital was divided into two sections, "A" and "B"; patients in the latter section were under my charge. The following figures are from the records of the first three hundred patients admitted under my care, and are the result of careful personal enquiries. Of these 300, 155 suffered from genital sores, the majority of these were in the region of the *frenum perputii*, a great many were of a phagedænic type. Many of these, I felt sure, would subsequently develope syphilitic manifestations. One hundred and thirty-nine suffered from gonorrhoea, and six suffered from syhpilis.

A few remarks regarding the lines of treatment may be of interest. All patients in the venereal diseases hospital at Mena Camp enjoyed an enforced rest, enforced by means of barb-wire and an armed guard. This rest was, I am sure, an important beneficial factor in the treatment of gonorrhœa and in preventing gonorrhœal complications, which were very rare indeed. Apart from this the main treatment of gonorrhœa consisted of irrigations with solution of potassium permanganate.

The phagadænic sores were treated with continuous saline or mild antiseptic baths. Syphilis was treated by mercury inunctions and salvarsan.

In connexion with the manifestations of syphilis it was interesting to find that the secondary manifestations of syphilis acquired in Egypt were much milder than those of syphilis acquired in Australia. Whether this was due to an attenuation of the Egyptian organism or not, in the few cases I saw, the difference was striking.

The great majority of these patients were youths, some still in their teens, others in the early twenties.

Two hundred and fifty out of the 300 (*i.e.*, 83.3%)

[1] Read at a Meeting of the Victorian Branch of the British Medical Association on June 4, 1919.

[1] Merely as a basis for comparison I give the highest percentage of the "constantly sick and invalided for syphilis and gonorrhœa" in the British Army during the period 1880 to 1910. This was in 1884, when the percentage rose to 2.077%, whilst during the years of the South African war the percentages were as follows:—1899, 1.032%; 1900, 0.726%; and 1901, 0.939%. These figures are exclusive of the Army in India.

had previously not suffered from venereal disease. The majority of these informed me that they had not previously incurred the risk of infection. Of the remaining 50, 36 admitted one, 8 two, 2 three, 1 five, 2 ten, and 1 twelve previous attacks.

One hundred and fifty-eight of the three hundred patients (*i.e.*, 52 %) admitted that they had been under the influence of alcohol at the time infection was incurred. Two hundred and sixty-five out of the 300 (*i.e.*, 88.3%) had employed preventive measures, as follows:—

192 had washed in a solution of potassium permanganate;
30 had washed in water or soap and water;
15 had used *unguentum hydrargyrum*;
15 had syringed with a potassium permanganate solution;
3 had applied iodoform powder;
2 had syringed, applied an ointment, supplied by their medical officer, and had reported to their medical officer in the morning.
2 had washed with *lotio nigra*;
2 had washed with a solution of lysol;
1 had washed with a solution of carbolic acid;
1 had washed with a solution of boric acid;
1 had applied copper sulphate;
1 had applied calomel;
1 had used a condom;
1 had washed at a chemist's and reported to his medical officer in the morning.

These figures deal with the failures of preventive measures, granting that the measures cited can be classed as preventive. They are, therefore, no index of the efficacy of preventive measures.

The figures, however, do show a lack of organized trained effort as far as Mena Camp was concerned. A further proof of this was the absence of any control over the quality and sale of alcoholic liquors. Members of the Australian Imperial Force during the early days will remember how the only decent hotels in Cairo were closed to the rank and file of the forces.

That there were isolated efforts at Mena is beyond doubt. I well remember the work of Captain (now Colonel) A. G. Butler, of the 9th Battalion, of Captain (now Lieutenant-Colonel) Jolly and others. The results of their efforts, though they showed in an analysis of the figures in regard to units were too isolated and lacked co-operation to make themselves sufficiently felt in a division.

The Australian Imperial Force in its early days consisted of a rapidly organized force of mainly untrained men and officers. To deal successfully with venereal disease it is essential that every officer should recognize the tremendous importance of the prevention of venereal disease in the Army, and should be trained to help in the achievement of that object. Three means are at our disposal, *viz.*:—

(1) Avoidance of risk of infection.
(2) The use of prophylactic measures.
(3) Efficient treatment.

These measures are employed in the order named. Each should be used to its fullest means when the necessity for its employment arises, and no effort should be spared to make it a success. On this account I would condemn the indiscriminate supply of prophylactics to all men going on leave.

Dr. Morris, in a separate paper, is dealing with prophylactic measures and treatment. I will therefore confine myself to the question of avoidance of risk and to the necessity of training.

To no other than venereal disease is Lord Nelson's statement:—"You will agree with me that it is easier for us to keep men healthy than for a physician to cure them," more fittingly applicable.

It is a fact that continence is not harmful to health, that it is not unmanly, but that, on the contrary, the quality of self-restraint that is necessary to carry it out, is the quality that distinguishes the manly from the unmanly, the good "sport" from the poor "sport." It follows then that venereal disease is more certainly preventible than any other preventible disease.

To make avoidance of infection an effective measure against venereal disease it is essential that the Army Medical Service should be trained in the means necessary to secure this.

These include:—

(1) The realization by the whole Army Medical Service of the importance of preventing venereal disease in the Army.
(2) The education to a similar degree of all combatant officers and men.
(3) Instructions in regard to sex hygiene of combatant officers and men.
(4) Special attention to the men's personal hygiene.
(5) Organized provision of healthy amusement, sport and literature for the men in their spare time.
(6) Efficient control of the quality and sale of alcoholic liquor.
(7) The legal suppression of vice.

Regarding the question as to where the necessary training should be carried out. It is a lamentable fact that as regards venereal disease the scheme of training the Army Medical Service, as carried out in camps of training of the Commonwealth Military Forces, fails to recognize the first function of the Army Medical Service, *viz.*, to prevent disease and to keep the fighting man fit.

Little is done to instruct officers and men in regard to venereal disease as a cause of invalidity, how to secure avoidance of the risk of infection, or how to apply prophylactic measures effectively. Equally little is done to train members of the medical service in methods of early diagnosis and how to apply effective measures of treatment. Regulations render it necessary that when a case of venereal disease occurs in camp, the patient must be discharged within 24 hours, and the opportunity for instruction is lost.

Instead of such training much time is spent in opening and lifting stretchers, lowering and closing stretchers and similar ancient exercises. Members of the profession who have passed through camps of training, will know the amount of time that has thus been spent. Members who have been on active service, will know how much more usefully such time could have been spent.

Yet these camps offer splendid opportunities to

both officers and men for dealing with venereal disease. The young officers and men are of the most favourable age for imparting instructions, *viz.*, from 18 to 26 years. Opportunity is given to reach the combatant officers through the brigade lectures. There are opportunities for training combatant officers, particularly junior ones, to take a personal interest in their men in regard to their health, their sport, amusements and individual welfare.

These training camps should play a big factor in training officers and men how to deal with venereal diseases. Practically the whole of the younger generations of males passes through these camps, and every opportunity should be taken to impress upon them the risk they run from a venereal infection, in relation not only to their military, but also to their civil position. No effort should be spared to help men to avoid the risk of infection. It would be advantageous for every camp to have its official organizer for sports and amusements, in order to occupy the men in their spare time with healthy recreation and to train them to organize for active service conditions.

Lastly, no opportunity should be missed to instruct members of the medical service to carry out methods of diagnosis of prophylaxis and treatment efficiently.

In concluding, may I point out that much that has been said of the inefficient training of members of the Army Medical Service is applicable to the training of the medical profession? In Melbourne, at any rate, I do not know of one clinical school, where medical students receive a proper course of instruction in the diagnosis and treatment of venereal disease. There is, in fact, a tendency to deprive clinical schools of the material necessary for instruction.

As far as the Army Medical Service is concerned, I hope this paper shows that to combat venereal disease in the Army organized effort is required. To be effective those taking part in this effort must be trained. At the present there is no such training, though the means for it exists.

ARMY MEDICAL SERVICE: PROPHYLAXIS AND TREATMENT OF VENEREAL DIEASE.[1]

By Arthur E. Morris, M.B., Ch.B. (Melb.).
Melbourne.

The treatment of syphilis is now so well established and generally so satisfactory that I propose to deal chiefly with gonorrhœa as it affects the urethra and its adnexæ. But I should first like to make one remark with regard to syphilis that occurred in the Australian Imperial Force. A thorough and intensified course of treatment, lasting as a rule for seven weeks, was given and if a negative Wassermann reaction was obtained at the end of that time, the patient was discharged to duty, usually with the idea that he was completely cured and need worry no further about the infection. If, at the end of the usual course, a positive Wassermann reaction was obtained, further treatment was given until the reaction became negative. Now it is a recognized fact that a Wassermann reaction may become positive again after having been rendered negative by treatment and I am afraid that a certain number of these men are still syphilitic, though they think that they are quite cured. I would ask members of the profession when they meet with men who have acquired syphilis whilst on active service, to impress upon them the desirability of having further Wassermann tests made, if not of having a further course of treatment.

The treatment of gonorrhœa may be considered under the headings:—

(1) Preventive measures, or the so-called "early treatment."
(2) Abortive treatment.
(3) Treatment of the fully developed disease.

I.—Preventive Measures.

Preventive measures should be used as soon as possible after the exposure to infection has occurred. The fact that a large percentage of men are under the influenza of alcohol when they expose themselves to infection, means delay in taking precautionary treatment, very often inadequate treatment, and certainly a lowering of resistance to infection. During the latter part of the war a preventive outfit was largely used in the Australian Imperial Force. It consisted of a tube containing a *nargol* jelly, a tube of calomel cream and instructions as to their use. This outfit was dubbed "Dread-nought" by the men. At the same time all men going on leave were instructed to report at some "early treatment" depôt as soon as possible after running the risk of infection. It is extremely difficult to gauge what influence the "Dread-nought" had on the incidence of disease. In hospital only the failures were met with. Of 200 consecutive men who had developed gonorrhœa:—

27 had used the outfit in the prescribed manner;
27 had used it incorrectly;
25 had had some kind of preventive treatment; *e.g.*, had been treated by a chemist, had received attention at an "early treatment" depôt, or had used some injection;
121 had taken no steps to prevent infection.

My own feeling is that an outfit such as this, apart from the fact that it tends to give men a sense of false security and requires care and a certain amount of skill in its use, is not of great value in the prevention of gonorrhœa. Far more satisfactory, in my opinion, are either injections, *e.g.*, argyrol 15%, held in the urethra for ten minutes, or irrigations, *e.g.*, 1 in 5,000 solution of permanganate of potash, administered by a skilled attendant or orderly. I believe that after the introduction of early treatment, "blue light" depôts, the percentage of venereal infection in the Australian Imperial Force was lowered considerably. But it is impossible to obtain figures with regard to prevention, and even hard to get any definite facts. I consider the most important factor in the prevention of venereal disease is the time element. The treatment must be given within a few hours of exposure to infection to have hope of success. Next in importance experienced and skilled hands should administer the treatment. I do not think it matters greatly what method is adopted, as long as it is carried out in an efficient manner.

[1] Read at a meeting of the Victorian Branch of the British Medical Association on June 4, 1915.

II.—Abortive Treatment.

Abortive treatment may be used in cases where the patients report as soon as symptoms develope. It is not advisable in hyperacute cases, nor is it of use in cases where the incubation has been a long one. Indeed a long incubation is usually to be considered an indication for a guarded prognosis. In cases where symptoms do not develope for eight or ten days, the infecting organisms have penetrated deep into the tissues, and cure will probably be long delayed. In such cases there is little hope of abortive treatment proving effective. It may also be stated that there is little or no hope of abortive treatment proving successful if a discharge has been present for longer than 24 hours. The most satisfactory of the abortive methods is "sealing in," now described in many text-books. The chief points to be observed in regard ot it are:—

(1) To use non-contractile (methyl) collodion.
(2) To prepare the argyrol solution immediately before it is used.
(4) Not to inject a large quantity of the solution; 1 to 1.25 mils is sufficient. Injection of a larger quantity will cause leakage and failure.
(5) Acetone is required for the removal of the collodion.
(6) If there is a reaction to the argyrol, an injection of aluminium acetate should be given.
(7) This treatment should not be continued for longer than four days and then only if the microscopic examination of any discharge or meatal scraping shows the gonococci to be disappearing.

In a few chosen cases (the most suitable is a case in which the discharge either has not, or has only just appeared, and in which the infection is not very acute) the silver abortion method gives good results. The treatment should be administered by the doctor alone; about 2 mils of a solution of *argenti nitratis* are injected into the urethra, care being taken to see that the solution does not pass beyond the anæsthetized area. The solution is held in position for five minutes, if the pain is not too severe. The patient is then sent home to rest, and irrigation with a weak potassium permanganate solution is commenced next day. The danger is that if the silver does not destroy all the infecting organisms, it has lowered the resistance of the mucosa and made a good soil for the gonococcus to grow upon. This treatment should be reserved for the occasional special case.

A third abortive method is to inject a freshly prepared solution of 15% argyrol, or a 2%-3% protargol solution (the latter I consider to be too irritating to use for preference), and to hold it *in situ* for 10 minutes; this is repeated twice a day for three or four days. The question as to how long abortive treatment should be used is to be decided by results. In some cases it is obvious in a very short time that the disease is progressing despite treatment. Other measures should then be employed. In other instances the amount of discharge lessens and disappears. Then the treatment may be continued for five days, but no longer. The best check on the result obtained is repeated microscopic examination of the discharge, or if none be present, of scrapings from the meatus. No case should be labelled gonorrhœa until a microscopic examination of the discharge has been made and, if necessary, a culture grown. Cases of urethritis of non-specific origin are quite common and are too often classed as gonorrhœa for lack of this precaution.

III.—Treatment of Fully-Developed Disease.

In dealing with the fully-developed disease I propose to refer solely to the local treatment of the urethra and its adnexæ.

Unless the infection is a hyper-acute one, and intense pain precludes all local treatment, irrigation two or three times a day by Janet's method is the treatment of choice. A permanganate of potash solution of gradually increasing strength is employed. It would appear that it is the flushing action largely that causes the good results. Use of the urethroscope after such an irrigation will show that an œdema of the mucosa and swelling of the meatus following on an irrigation may be taken as a good prognostic sign. Compare the different effects of the same solution of potassium permanganate used as an injection and as an irrigation. The results are hardly comparable. In most instances it is not possible to irrigate into the bladder at first on account of the pain and spasm of the compressor muscle. The latter may often be overcome by the injection of a 1% solution of cocaine or similar solution. But when it is possible to carry this out a posterior irrigation should be given. When an anterior irrigation is given the solution does not circulate freely in the bulb. This may be proved by instilling a 1% solution of methylene blue into the bulb and immediately giving an anterior irrigation, and even though 3.5 litres of solution are used, the blue can be expressed afterwards in practically undiluted state. It is not always that potassium permanganate gives satisfactory results; when it fails *hydrargyri oxycyanidi* (1 in 12,000, and stronger) may be tried with success. Some surgeons use it as a routine measure. It is not every patient who is able to attend regularly for irrigation and in such instances injections have to be ordered. Where possible they are to be avoided. I prefer fresh argyrol, 5%-10% and a mixed solution of potassium and zinc permanganate, strength 1 in 5,000. The argyrol powder is ordered and the patient given instructions how to make the solution. Within 10 to 14 days, unless a cure has been obtained, the posterior urethra becomes involved. Symptoms may show that this has occurred, as sudden increase of frequency of micturition, pain at the end of the act, or even blood following micturition. But unless posterior irrigations are being given, a careful watch for the onset of posterior infection must be kept and frequent tests made. Satisfactory tests of posterior infection are:—

(i.) The patient having retained his urine for several hours, the anterior urethra is washed clean with a large quantity of a clear solution, *e.g.*, saline or boracic solution. The patient then passes urine and pus in the urine will reveal a posterior infection.

(ii.) The patient having a full bladder, a 1% solution of methylene blue is injected into the anterior urethra, the excess of blue washed out with saline solution and the patient passes urine. Any pus or threads coming from the anterior urethra will be coloured blue, whilst those from the posterior urethra will be unstained.

It may be taken, as a rule, that any patient still showing symptoms at the end of seven weeks, has developed some complication. This is most likely to be:—

(1) Involvement of the prostate.

(2) Spread of the infection to the deeper layers of the urethra, leading to fibrous tissue formation or infiltration.

(3) Involvement Littré's glands.

(4) Involvement of Cowper's glands.

Prostatitis is the most common complication in gonorrhœa, as also it is the easiest to diagnose. A digital rectal examination will at once show whether the prostate is infected. In untreated cases of gonorrhœa over 90% of the patients get some involvement of the prostate gland.

Treatment consists essentially of massage of the gland *per rectum*. This should be done about twice a week and may be followed by posterior irrigations of potassium permanganate, or deep instillations of argyrol (5%-20%) or silver nitrate (0.25 to 1 grn. to 25 c.cm.). Quite recently I have tried the effect of high frequency effluve on some cases of prostatitis, but so far I only feel justified in saying that the rays seem most effective in allaying pain.

In the early stages of infiltration of the deeper layers of the urethra the urethroscope is the only sure method of diagnosis. In the later stage when soft infiltration is becoming hard, the condition may be revealed by careful examination by olive-tipped bougie.

Treatment in any kind of infiltration of the urethra is by dilatation, and fortunately in many cases, this treatment is followed by satisfactory results. In a few instances I have supplemented the dilatation with intra-muscular injections of fibrolysin and though I have only tried this in a few cases I am inclined to think very favourably of it. Infection of Littré's glands is most easily diagnosed by use of the urethroscope, but failing this instrument the infected glands may very often be felt on palpating the urethra over a large bougie.

Infection of these glands is extremely difficult to combat. In some cases dilation by Kollmann's dilator has a satisfactory result. In others it has to be combined with topical applications of silver nitrate of varying strengths. In some cases recourse has to be made to the cautery; but results are not uniformly satisfactory, as troublesome infiltrations may result. Major Campbell, R.A.M.C., introduced an instrument that produces a negative pressure in the urethra and some most pleasing results in cases of obstinate littritis have been obtained through the use of this instrument.

Infection of Cowper's gland is fortunately a comparatively rare occurrence. Massage *per rectum* will usually clear up the more recent cases. In the cases that resist other treatment, operative interference in the form of excision of the gland is recommended. But I have had no experience in this operation or in its results. I should think it was only to be undertaken in exceptional cases.

STUDIES ON CASES OF UTERINE ABNORMALITY.

By **Margaret McLorinan, M.B., B.S. (Melb.),**
Honorary Gynæcological Surgeon, Queen Victoria Hospital, and Acting Honorary Surgeon, Women's Hospital, Melbourne.

Introduction.

Cases of so-called human abnormalities are generally regarded as of academic interest only and rarely do we find an attempt made either to define an original error of which the abnormality may be the result, or the probable evolutionary significance of the abnormality as to whether it is one of retrogression or progression. Perhaps in no part of the animal economy is there so much instability as in the human female generative organs, where unification of the Müllerian ducts has been carried to an extent not met with in any other member of the mammalian order, since, in the primates and man, the primitively paired condition of the Müllerian ducts is seen usually in the Fallopian tubes alone. For an explanation of this instability, whether manifested by abnormality or disease, there is little doubt that we must have recourse not so much to clinical or pathological methods, but to comparative anatomy. Functional comparative anatomy must provide the solution of many diseased conditions in the female pelvis.

Internal Secretions.

It is the opinion of many gynæcologists that internal secretions play a much more important part in affections of the female pelvis than is usually taught. Thus dysmenorrhœa is still being treated by various operative methods and antispasmodic drugs with very poor results. If such a condition could be associated with some structural defect, or some alteration in the internal secretory mechanism, how much more rational would the treatment become. The recent announcement before the members of the Royal Society of Victoria of the discovery in the lowest mammal, platypus (*Ornithorhynchus anatinus*), of three new internal secretory glands, *viz.*, parathymus, cervical sex gland and the scapular gland only proves to us that the functional anatomy of this subject is yet in its infancy.

The Vagus Nerve.

The medical student is apt from his dissections to regard the vagi as ending indefinitely in the stomach region. On the contrary, they have a much wider distribution and might better be regarded as essentially abdominal nerves. In the Tasmanian devil (*Dasyurus sarcophilus*) the vagal nerves, owing to their size, can be readily anatomized, and it is interesting to note that a large direct branch can be traced to the intestine 22 cm. from the rectal termination. In addition, a direct branch can be traced into the broad ligament, where a plexus is formed for distribution to tube, uterus and ovary (see Figure I.). A direct connexion between the female generative organs and the brain opens up a new field in gynæcology and may it not help to explain the many gastric attacks, bilious headaches, backaches and other symptoms so familiar to us all?

The Uterine Pace-Maker.

The discovery by Professor Keith, that, in the Australian echidna, there is a true and direct union be-

tween nerve and muscle fibre in the sino-auricular node, provided the key to that system of tissues in which the human heart beat arises and by which it is propagated throughout auricles and ventricles. We also know that there are definite control areas or "locks" along the gastro-intestinal tract. It is reasonable to suppose that a similar pace regulating system exists in connexion with the uterine muscle, to which the vagal relationship noted in connexion with the Tasmanian devil would lend support. In other words, so-called loss of uterine muscle tone need not necessarily be generalized, but be due to a local derangement. On this question "malformations" should throw light. Perhaps something of this nature may operate in certain cases of extra-uterine pregnancy. At present I am inclined to the view that the regulating region is at the fundus, probably about the orifice of the Fallopion tube. It is interesting to recall that the anatomist, Ruysch, quoted by Sir Charles Bell, described a circular muscle on the inner surface of the uterine fundus "of use in separating the placenta from the uterine wall."

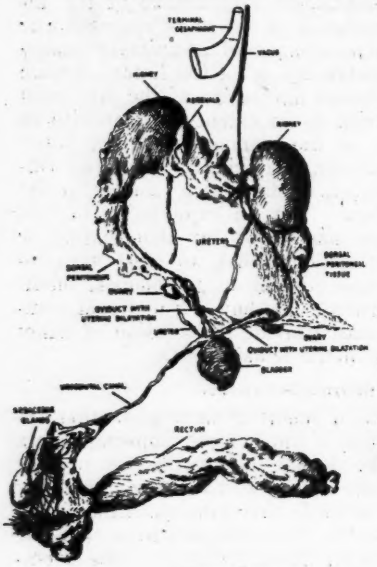


Figure I.

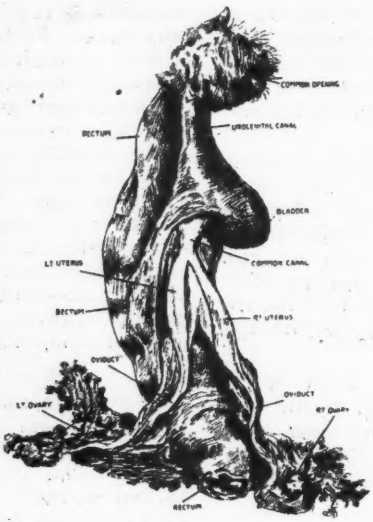


Figure III.

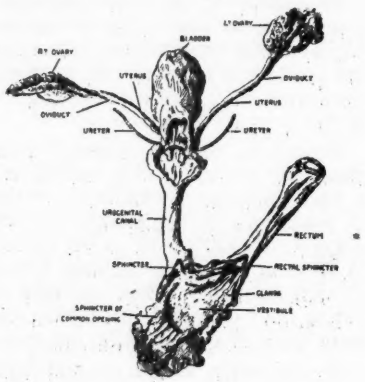


Figure VI.

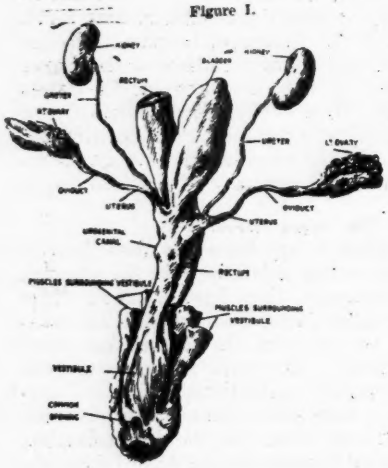


Figure V.

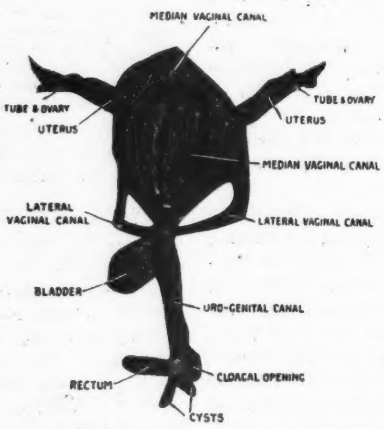


Figure VIII.

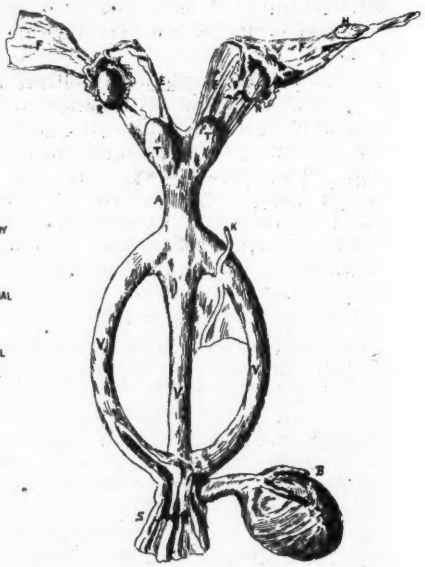


Figure VII.

Figure I.—The female genito-urinary system in the Tasmanian devil. (*Dasyurus sarcophilus*).

Figure III.—The female genital system in Victorian wombat (*Phascolomys mitchelli*).

Figure V.—The female genital system in platypus (*Ornithorhynchus anatinus*).

Figure VI.—The female genital system in platypus (*Ornithorhynchus anatinus*). The bladder, urogenital canal and vestibule have been opened.

Figure VIII.—The genital system from an Australian phalanger (*Trichosurus*).

Figure VII.—The female generative system in Macropodidæ (kangaroos and wallabies).
H. Lymphatic gland.
F. Peritoneum.
R. Right and left ovaries.
E. Right and left Fallopian tubes.
T. Right and left uteri.
A. Common canal.
K. Ureter.
V. Mesial and lateral vaginal canals.
B. Bladder with ureters.
S. Commencement of urogenital canal opened to show openings of genital and urinary canals.

The Round Ligament.

For the uses ascribed to the round ligament one might expect to find justification in the nerve supply or ancestral history. In the marsupial there is no definite evidence of the presence of a round ligament as such, and, furthermore, the uteri are in close relationship with the ventral bowel wall.

Emerging from the external abdominal ring and spreading over the mammary gland on each side is the well defined ilio-marsupialis muscle (compressor, cremaster), which is traced not to the uterus, but to the ilium near the lower attachment of the internal oblique and *transversus abdominis*. One feels that our present-day knowledge of the functional anatomy of the round ligament is crude and unsatisfactory.

Two Cases of Uterine Abnormality.

The following cases were seen by me within a few weeks of each other:—

Case I.—M.T., *æt.* 34, a multipara, with two children, complained of backache, a dragged-down feeling and of always being tired. The menses were profuse. Examination revealed what was thought to be an ordinary normal retroverted uterus with relaxed vaginal outlet.

Operation.—After curettage and repair of the pelvic floor the abdomen was opened. Instead of the ordinary single uterus, a "bicornuate" structure was discovered, each uterus possessing its own tube and ovary and merging below into a common cervix. The whole lay back in Douglas's pouch, but was quite movable (see Figure II.). Viewed proximally

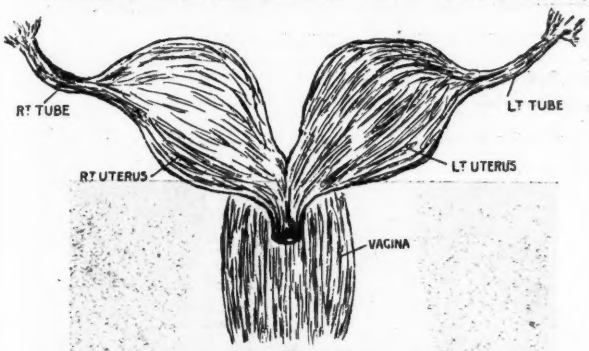


Figure II.
A case of double uterine "abnormality."

the condition reminded me of that seen in the Victorian wombat (*Phascolomys mitchelli*) (see Figure III.). Seeing that the patient had already borne two children, no alteration of the abnormality was attempted, but the double organ was suspended by intra-abdominal shortening of the ligaments. The recovery was uninterrupted.

Case II.—L.S., a single woman. For five years before operation this patient had been treated for "nerves." Her symptoms were headaches, periods of depression, sleeplessness and a feeling as if at certain times her head was bursting, in addition to complaints of aches and pains in different parts of her body. For some time she went the rounds of the hospitals and was gradually drifting into the ranks of the hopeless drug fiend and neurasthenic. Her menstrual periods were perfectly regular and painless, the onset was late (about her seventeenth year), and from that time she really dated her ill-health.

The patient looked ill, and complained of severe pain in the left side. This pain had come on gradually and now was constant. On examination the pulse-rate was 112. The abdomen was very tender and an irregular swelling could be felt arising from the pelvis. The vaginal examination showed an intact hymen and a small anteflexed uterus pushed over to the right. The left fornix was filled with a large, irregular mass, tender to the touch, but seemingly separate from the uterus. The provisional diagnosis of twisted cyst, possibly dermoid, or a sarcoma, was made.

Operation.—When the abdomen was opened the uterus was found lying to the right; it was small and the tubes and ovaries were normal. On the left side a large, dark mass was revealed, resembling a twisted ovarian cyst, but on separating this from some fine adhesions, further masses were brought into view and one naturally thought of malignancy (see Figure IV.). The clue was provided by the

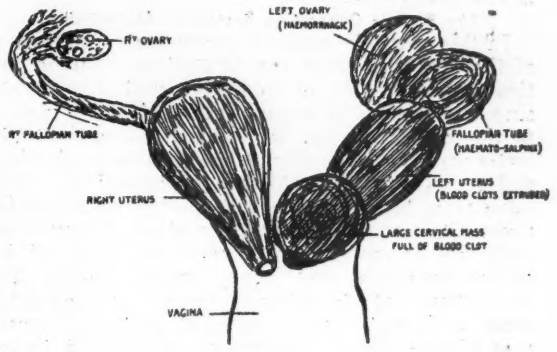


Figure IV.
A case of double uterine "abnormality." Hæmometra.

thick muscular character of one of the masses placed deep in the pelvis, which resembled another uterus, and distal to this again was a further swelling blended with the cervix of the right uterus. This latter swelling was very thin walled and ruptured during dissection, and from it some old blood clot was expressed.

The whole condition was seen to be one of double uteri, that on the right side being normal and functionating in the ordinary way, while on the left side there was a block in the cervical canal with a condition of hæmometra resulting. The canal was full of blood clot and thinned almost to bursting point; this formed the most distal swelling of all. More proximal was the uterus, full of the same blood clot and much distended. The tube and ovary were in the same condition. The whole of the left side was removed and the right uterus tube and ovary left intact. The recovery was uninterrupted. Four months after the operation her nerve symptoms have disappeared and she appears normal in every way.

As it is in the members of the Australian fauna that we can best study Nature's experiments in unification of the Müllerian ducts, without which a correct understanding of human abnormalities is impossible, I would like to draw attention to the main features in the generative systems of monotremes and marsupials.

The Female Generative System in Monotremata (Platypus and Echidna).

In this egg-laying order of mammals simplification, not specialization, is the characteristic. The left ovary is large and well defined. The right ovary is small and may be indistinguishable from surrounding tissues (see Figure V.). It is interesting to note that in the "lowest" mammal the left is the "selected" side. In my experience in the human, disease is more common on the right than on the left side, and, I think, where one ovary or tube had to be sacrificed, this should be the right. Free mobility of ovary and tube, as of the intra-abdominal testes, is characteristic of the monotreme, a fact which should be borne in mind in ovarian transplantation.

The efferent canal may be said to consist of two portions, the proximal or Fallopian tube and distal or uterus, although in the young they may be indistinguishable (see Figure VI.). The latter opens on a prominence together with the ureter at the upper part of the uro-genital canal. The uro-genital canal, in turn, joins the common vestibule into which the rectum also opens.

The Female Generative System in Marsupialia.

In this order the varied experiments on unification of the Müllerian ducts can be studied. This is particularly noticeable in connexion with the vagina, since a condition of uterus, tube and ovary, similar to the marsupial, may be frequently found in primates and man. The efferent ducts on each side (tube and uterus) approach and unite in the mid-line. This takes place before the ducts themselves open into the uro-genital canal. The portions above the union on each side become Fallopian tubes and uteri of the higher mammals, and below, vaginal canal. The development of the latter is unique and gives the complex character to the marsupial generative organs (see Figure VII.). Instead of an attempt to approximate the ducts further in the direction of the uro-genital canal, Nature found it easier to short circuit. This she effected by forming a median vagina or vaginal caecum and the various grades of extension backwards to the uro-genital canal may be seen in different members of the order. This median portion finally opens into the uro-genital canal and becomes the vagina of higher types, the lateral canals gradually disappearing, as may be seen in the Australian phalanger (*Trichosurus*). Thus we see why vaginal "malformations" are less frequently met with than uterine ones.

In Figure VIII. (from an Australian phalanger) the atrophied lateral vaginal canals are seen. The median or selected vagina is enlarged, being blocked at the exit to the uro-genital canal, which resulted in death of a contained embryo. Into this median or selected vagina each uterus opened by a valvular prominence or *os tincæ*. In the kangaroo the three vaginal canals—median and two lateral—are well defined. This specimen provides evidence that the central canal is for the transmission of the embryo.

In conclusion, one wonders whether complete union of the two uteri is as common in man and the primates as is generally supposed. At present there is insufficient evidence to state if unification will proceed to a further stage than that found in primates and man. The original specimens relating to the Australian fauna, from which the plates were made, are from the museum of the Australian Institute of Anatomical Research in Melbourne.

THREE NEW AMPUTATIONS OF THE FOOT, EACH CONSERVING THE CALCANEAL TREAD.

By **C. E. Corlette, M.D., Ch.M. (Syd.), D.P.H. (Camb.),**
Honorary Surgeon, Sydney Hospital, N.S.W.

Through misdirection the figures reproduced below were incorrectly described in our issue of June 21, 1919.

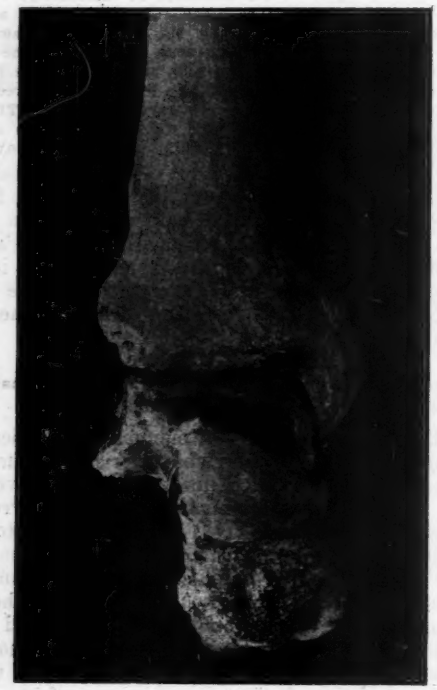


Figure VIII. and IX.

No. 1 operation, bone preparation. Front view of a right foot specimen, fibula removed, and of a left foot specimen with fibula in place. Note that the lower part of the head of the talus has been sliced off and that the corresponding plane surfaces on the calcaneus and the talus are accurately adjusted, and firmly held together by a stout wire ligature. The wire is seen to pass transversely through the neck of the talus, behind the head, but in front of the body of the bone, the ankle-joint being undisturbed. The vertical distance of the boreholes from the cut surfaces of the bones can be seen. The rough area on the front of the calcaneus is produced by the surface of cancellous tissue left after trimming away most of the greater process to reduce the anterior projection of the bone. Note that in this and in all the operations the sustantaculum tali has been removed flush with the side of the calcaneus.

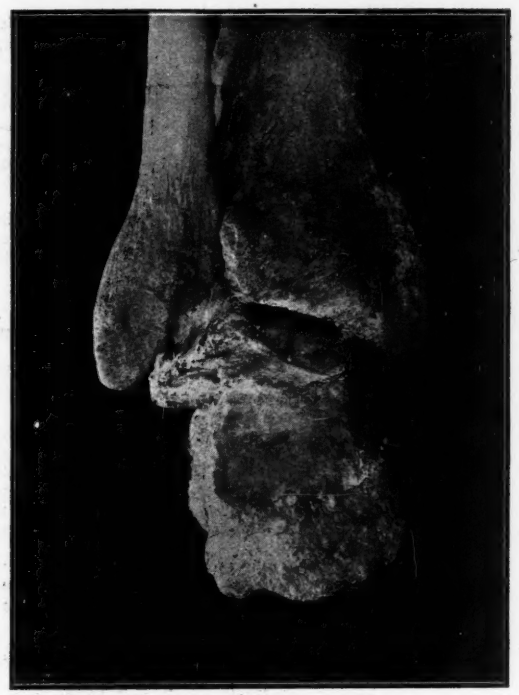


Figure X.

No. 1 operation, bone preparation, posterior view. At the bottom note profile of tubercles marking site of the natural calcaneal tread. The rough part above this corresponds with the insertion of the Achilles tendon, and above this is the smooth area on the posterior surface corresponding with the bursa, which lies here between tendon and bone. Then, above this, transversely, can be traced the line of apposition between the cut surface of the calcaneus and that of the talus. It will be seen that the ankle-joint is unaffected, and a portion of the trochlear articular surface of the talus can be seen just beneath the tibia. A portion of the wire ligature can be seen, though rather dimly, on the left of the calcaneus.

Reviews.

AIDS TO HISTOLOGY.

The manual[1] in the Students' Aids Series upon histology from the pen of Dr. Alexander Goodall is admirably suited to assist the student in passing written examinations in the subject. The matter is set forth in simple terms, and apt descriptions enable the student to form a mental image of the objects. The author is careful to point out in the preface that a knowledge of histology can only be gained by using a microscope. He intends this book for junior students, though he hopes that senior students will employ it for the purpose of revision. He adds a chapter upon histological methods in which the student is told what to do, though he is naïvely informed that he must proceed to a laboratory for information how to carry out the directions.

This book will find favour among those who have to sit for a written examination in histology. Where the student has to examine specimens with a microscope and to demonstrate his acquaintance with the appearance of the various tissues, it will not be deemed a valuable guide. It contains a precise account of the main morphological features of the simple tissues, of the viscera, of the nervous system and of the special sense organs as revealed by the microscope. In addition, the student will find tables of information which will be useful in answering certain types of questions much favoured by examiners who set written papers in histology. For its purpose this book is excellent.

We regret to announce the death of Dr. Alfred Edward Perkins, D.S.O., V.D., which took place in Sydney on June 30, 1919. Dr. Perkins was for some time the Principal Medical Officer of the 2nd Military District.

[1] Aids to Histology, by Alexander Goodall, M.D., F.R.C.P.; 1919. London: Baillière, Tindall & Cox. Foolscap 8vo., pp. 135; illustrated by 30 figures in the text. Price, 3s. net.

THE DEATH OF SIR JOHN McCALL.

The news from London of the death from pneumonia of the Honourable Sir John McCall, which took place on June 29, 1919, will be received with profound regret by the medical profession. Although in recent years his activities have been almost exclusively associated with his important office of Agent-General for the State of Tasmania, it must not be forgotten that his eminence in public affairs was achieved in the public health service. He was born in East Devonport, Tasmania, in 1860, and was educated at the Glasgow University, where he graduated in medicine in 1881. His registration as a medical practitioner in Tasmania was effected in December of the same year. Seven years later he was appointed Chairman of the Leven Harbour Trust and of the Fourth Road Trust and he was also returned as a member of the House of Assembly. He retired from Parliament in 1893, but continued to display marked activity in public health matters. About this time he was appointed Warden to the Leven Municipality. In 1901 he again became a member of the Lower House and he devoted much attention and expended much energy in the drafting of a new Public Health Bill. In 1903 he was selected for the position of Chief Secretary in the Propsting Ministry, a position he held for two years. His public health measure became law in 1903 and in the same year he was appointed President of the Central Board of Health. He introduced the Local Government Act of 1904. At a later date he was appointed a member of the Executive Council and in 1909 he became the Agent-General for Tasmania. Since May of that year he has resided in London. He received the honour of knighthood in 1911.

We regret to announce the death of Dr. Thomas Cathcart Caldwell, which took place at the Goodna Hospital for the Insane, Queensland. Dr. Caldwell had been on the staff of the Hospital for about five years, and left in 1916. He was apparently on a visit to his brother-in-law, Dr. H. B. Ellerton, the Medical Superintendent of the institution, when he was taken ill.

Naval and Military.

APPOINTMENTS.

The following appointments, etc., have been announced in the *Commonwealth of Australia Gazette* of June 19 and 26, 1919:—

Australian Imperial Force.

Second Military District.

Major A. W. H. a'Court, 4th Field Ambulance, to be Deputy Assistant Director Medical Services (temporarily), Australian Corps, *vice* Collins. Dated 24th February, 1919.

Major (temporary Lieutenant-Colonel) L. W. Bond, D.S.O., Australian Army Medical Corps (since returned to Australia), to be Lieutenant-Colonel. Dated 20th November, 1918.

Major (temporary Lieutenant-Colonel) C. L. Chapman, D.S.O., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Lieutenant-Colonel C. L. Chapman, D.S.O., Australian Army Medical Corps, from Staff of Assistant Director of Medical Services, A.I.F. Depôts in United Kingdom, is appointed Assistant Director of Medical Services, A.I.F. Headquarters. Dated 20th January, 1919.

Major N. M. Gibson, Australian Army Medical Corps, to be temporary Lieutenant-Colonel whilst employed as Officer in Charge Treatment, 1st Australian Division Headquarters. Dated 13th March, 1919.

Major G. B. Lowe, Australian Army Medical Corps, to be Deputy Assistant Director Medical Services, 2nd Australian Division, *vice* Major F. L. Wall, M.C.. Dated 2nd February, 1919.

Captain A. L. McLean, Australian Army Medical Corps, to be Assistant Collator (Medical) Australian War Records Section, *vice* Quartermaster-General and Honorary Captain J. R. Drummond. Dated 26th November, 1918.

Major (temporary Lieutenant-Colonel) V. W. Savage, D.S.O., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Major R. J. N. Whiteman, Australian Army Medical Corps, having resigned, his appointment in the A.I.F. is terminated. Dated 5th March, 1919.

Third Military District.

Major (temporary Lieutenant-Colonel) M. W. Cave, Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Major C. L. Clarke, Australian Army Medical Corps, to command 6th Light Horse Field Ambulance and to be temporary Lieutenant-Colonel whilst so employed. Dated 13th January, 1919.

Major (temporary Lieutenant-Colonel) C. Morlet, D.S.O., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Major (temporary Lieutenant-Colonel) W. F. Simmons, Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Fourth Military District.

Major (temporary Lieutenant-Colonel) L. O. Betts, O.B.E., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Major (temporary Lieutenant-Colonel) L. W. Jeffries, D.S.O., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

Fifth Military District.

Major (temporary Lieutenant-Colonel) W. C. Sawers, D.S.O., Australian Army Medical Corps, to be Lieutenant-Colonel. Dated 20th November, 1918.

APPOINTMENTS TERMINATED.

Second Military District.

Major E. N. B. Docker, M.C.. Dated 20th June, 1919.
Major W. Vickers, D.S.O.. Dated 25th June, 1919.
Captain H. S. Cusack. Dated 24th June, 1919.
Captain C. I. Davis. Dated 15th June, 1919.

Australian Military Forces.

First Military District.

Australian Army Medical Corps—

Captain (Honorary Lieutenant-Colonel) H. V. P. Conrick, D.S.O., to be transferred to the Australian Army Medical Corps, Second Military District, with corps seniority next after Captain (Honorary Lieutenant-Colonel) C. W. Thompson, M.C.. Dated 1st March, 1919.

Captain (Honorary Major) W. R. Kelly to be transferred to the Australian Army Medical Corps Reserve. Dated 30th April, 1919.

The temporary appointment of Captain W. J. Fearnley is confirmed. Dated 26th February, 1918.

Major C. J. Parkinson to be transferred to the Retired List, with permission to retain his rank and wear the prescribed uniform. Dated 26th February, 1918.

Australian Army Medical Corps Reserve—

Honorary Captain (temporarily) R. Kellas to be granted the temporary honorary rank and pay of Major whilst carrying out the duties of Commanding Officer, No. 6 Australian General Hospital. Dated 4th May, 1919.

Second Military District.

Australian Army Medical Corps—

Captain J. J. Woodburn to be granted the temporary rank and pay of Major whilst employed as Ear, Nose and Throat Specialist at No. 4 Australian General Hospital. Dated 1st May, 1919.

Captain (Honorary Lieutenant-Colonel) H. V. P. Conrick, D.S.O., to be transferred from the Australian Army Medical Corps, First Military District. with corps seniority next after Captain (Honorary Lieutenant-Colonel) C. W. Thompson, M.C.. Dated 1st March, 1919.

Third Military District.

Australian Army Medical Corps—

Captain (Honorary Major) H. Grover to be transferred to the Australian Army Medical Corps Reserve and to be Honorary Major. Dated 15th May, 1919.

Captain (Honorary Major) H. Grover relinquishes the appointment of Adjutant, Australian Army Medical Corps, Third Military District. Dated 14th May, 1919.

Australian Army Medical Corps Reserve—

Honorary Captains F. W. A. Ponsford and W. L. Potter to be Majors (temporarily). Dated 12th April, 1919, and 1st May, 1919, respectively.

Honorary Captain J. G. Wilson to be Honorary Major. Dated 1st April, 1919.

Fourth Military District.

Australian Army Medical Corps—

The appointment of Captain A. W. Hill as Senior Medical Officer, Australian Imperial Force Camps, Fourth Military District, with temporary rank of Lieutenant-Colonel, is terminated. Dated 30th April, 1919.

Captain A. W. Hill to be granted the temporary rank of Lieutenant-Colonel whilst employed as Resident Medical Officer at No. 7 Australian General Hospital. Dated 19th May, 1919.

Australian Army Medical Corps Reserve—

Harold John Penny to be Honorary Captain. Dated 23rd April, 1919.

The resignation of Honorary Captain H. George of his commission is accepted. Dated 7th May, 1919.

Fifth Military District.

Australian Army Medical Corps Reserve—

The temporary rank of Major granted to Honorary Captain D. G. Robertson is terminated. Dated 9th May, 1918.

GRANT OF HONORARY RANK.

The undermentioned. who have served in the Australian Imperial Force as commissioned officers, being appointed to the Reserve of Officers (temporarily), and being granted the honorary rank equivalent to that held by them in the Australian Imperial Force:—

Officers who, on appointment for active service outside Australia, were not serving in the Australian Military Forces.

First Military District.

To be Honorary Major—

L. B. Elwell, M.C.. Dated 28th January, 1918.

To be Honorary Captain—

E. D. Ahern. Dated 7th August, 1916.

Second Military District.

To be Honorary Majors—

B. Brooke. Dated 16th October, 1917.
H. Rayson, M.C.. Dated 10th September, 1918.

To be Honorary Captains—

F. B. Craig. Dated 18th October, 1916.
H. S. Thomas. Dated 7th July, 1916.

Third Military District.

To be Honorary Major—

J. S. Yule. Dated 1st October, 1918.

To be Honorary Captain—

J. G. Wilson. Dated 4th April, 1916.

Fourth Military District.

To be Honorary Major—

F. L. Wall, M.C.. Dated 20th June, 1917.

To be Honorary Captains—

R. A. Baker. Dated 16th May, 1916.
A. Goode. Dated 1st March, 1916.

The Medical Journal of Australia.

SATURDAY, JULY 5, 1919.

Peace.

One month after *The Medical Journal of Australia* entered upon its career as the single official organ of the Australian Branches of the British Medical Association five years ago, the unspeakable calamity of war darkened the homes and work-places of the British Empire, of France, of Belgium, of Russia and of the countries of the enemy. During the four and a half years that followed the normal task of the medical profession had to be diverted to meet the exigencies of the Army and Navy. This new activity brought with it special opportunities, many of which were eagerly grasped. There is no need to dwell now on the manner in which the members of the healing art displayed loyalty to our King and country and submitted themselves to unusual discipline, unusual dangers and unusual hardships. The world recognizes to-day that the medical profession yielded more than its quota for the great cause and that those who went overseas, have brought credit to their profession. Many problems in pathology and diagnosis presented themselves both in the east and in the west; some of these problems have been partly unravelled, while a few have been completely solved. But since everyone hates the thought of war, even on a small scale, it must be admitted that these opportunities are but feeble ameliorating incidents of an epoch marked with destruction and devastation. The world has lost millions of men of splendid physique. This must have a dire effect on the calibre of the coming generation. The world now contains millions of maimed men, whose activities are limited and whose working capacity is greatly diminished. The world has millions of citizens to-day whose mental outlook has been warped and deteriorated by the terrible experiences of the battlefield. In short the war has wrought incalculable damage to the human race.

The primary function of the medical profession is to preserve life, to diminish disease and to alleviate suffering. To this end all the energies of its members need to be directed to continuous study. To a large extent the peaceable prosecution of this study has been interrupted for five years. Moreover, it is impossible to ignore these five years and to re-start the campaign more or less where it was interrupted on account of the military and naval requirements. We have gone back a long way. The reconstruction of the world will necessarily be a long, painful and tedious undertaking. Failures will be experienced in the endeavour to improve the physical and psychical condition of the world's citizens of this generation. Time will be lost in the re-adjustment of the world's affairs on a peace footing, while the remembrance of the recent past will warn us to spend some of our energies in keeping ourselves prepared for all possible future emergencies. The problems of peace are far more complicated than those of war. The problems of a newly found peace are even more confused and difficult of approach.

Within a short span of time, the relations between the medical practitioner and the public, his patient, will be restored ostensibly to their previous condition. Ostensibly, but we trust not in reality. If we accept the lessons of the war, we must set to work to render the medical profession of greater use to the community in the future than it has been in the past. This is one of the great problems of peace. Each practising doctor must remember that in the war the whole science of medicine, the whole stock of knowledge was placed at the disposal of every soldier and sailor in need of medical assistance. The community is now, more than ever before, in need of the best application of knowledge and skill in diagnosis and treatment. Of still greater importance is the task of preventing disease and the largest measure of success in the work of reconstruction will lie in preserving the health of the community and in gradually building out of the material remaining a race as virile and as strong from an eugenic aspect as it was before the guns brought destruction to so many hearths.

There is no need for dismay. Our gladness at the advent of peace should be tempered by the sense of great tasks to be performed. We should set for ourselves high ideals and refuse to be satisfied with anything but sound achievements. The work of the medical profession of to-day will bear fruit in the next generation. Our determination that the harvest

shall be a full one, must not be weakened by the fact that we shall not be here to witness it. The spirit of science is always to work for an ideal that may be attained at some future date, when countless other workers have contributed their small quota to the fount of knowledge.

THE REPRESENTATIVE MEETING.

On July 24, 1919, and the following days the Representative Body of the British Medical Association will consider in London certain matters of importance to the Association and to the medical profession. Members in Australia should devote a short time to the perusal of the Report of the Council which has been published in the Supplement of *The British Medical Journal* of May 3, 1919. There is a tendency to disregard the discussions in England as of little concern to the profession in Australia. It must be pointed out that the central government of the Association is a democratic assembly and that the Australian Branch-Divisions have full representation in this assembly. The constitution of the Branches cannot be modified or altered independently of the whole Association and a great deal of the usage and practice is determined after due deliberation by the Representatives. The Council is at present considering the relationship between the oversea Branches and the parent Association and there are indications that, while greater autonomy and more elasticity will be accorded to the former, the bond that ties them to the parent Association, will become more firmly established. The British Medical Association will retain its rôle of the representative organization of the medical profession as long as it is democratically governed and as long as its membership extends to every part of the British Empire. The Australian Branches are under a debt of gratitude to Dr. W. T. Hayward, C.M.G., the President of the Federal Committee of the Branches in Australia, for the admirable manner in which he presented the suggestions for a closer co-operation between the Australian Branches and the parent Association.

Among the subjects that appear in the Report of the Council, two have a special interest for the medical profession in Australia. The first is the reply to the proposal by certain malcontents that the British Medical Association should be transformed into a trade union and should be embellished with all the usual machinery and constitutional regulations of trade unions. Incidentally this reply offers to the members a full and sufficient argument against the setting up of new, independent organizations. The creation of other bodies would have the effect merely of weakening the power of the British Medical Association; it would not invest another body with the right to speak or act in the name of the medical profession, at all events for very many years. The vast majority of the members of the British Medical Association have no desire to adopt trade union methods within the medical profession and will be gratified to learn the opinion of eminent counsel that the profession has nothing to gain by trade union organization.

The second point to which the attention of members is directed is one of medical ethics. The Council in London has given careful consideration to the problem arising out of the Coventry case. The Representative Body has now to determine whether the British Medical Association, in carrying out a policy, should content itself with the issue of warnings to non-members who refuse to be guided by the resolutions of the Association, or whether an amended form of ethical procedure should be maintained. It will be recognized that the rules of medical ethics are based on the matured opinions as to the most beneficial means of preserving the dignity and usefulness of the medical profession and that in a democracy like the British Medical Association, these rules are always open to reconsideration and revision. The rules are framed in such a manner that their application serves to enhance the value of medical services to the community. They differ fundamentally from the regulations of trade unions, in that they seek to prevent medical practitioners from utilizing advertisement and other means of commercial competition and from being associated with institutions which regulate medical practice on unsound lines to the detriment of the patients as well as of the medical profession. It would obviously be useless for the British Medical Association to determine the most advantageous methods of conducting medical practice, if it had no power to compel individual medical practitioners to fall into line with the majority who have adopted the rules and applied them in their daily lives.

SPINAL ANÆSTHESIA.

For many years the problem of a safe and widely applicable method of inducing insensibility to pain for surgical purposes has exercised the minds of medical practitioners. The solution has not yet been found, notwithstanding the fact that a very large variety of methods has been devised. The boon of anæsthesia needs no emphasis at this period of history. The days of operations without an anæsthetic are so long past that few surgeons and fewer patients consider the extent of the benefit associated with an anæsthetic. Unfortunately inhalation anæsthesia has grave disadvantages, even when the anæsthetist is specially trained and skilled. Formerly chloroform was used very frequently as a routine method, but a relatively large number of fatalities led to the more extensive use of ether, especially by the so-called open method. Recent researches have revealed that even ether is capable of inducing an acidosis and that the superimposition of this acidosis on the condition of wound shock, to which it bears some resemblance, means a considerable increase of risk. Local or regional anæsthesia has been found of great service, but its application is limited and for this reason it cannot replace inhalation anæsthesia. Lumbar or spinal anæsthesia appeared to offer very many advantages over inhalation anæsthesia, but in the early days it was thought that the attendant risks were as high as, if not higher than, the latter. Many anæsthetists, however, have been working quietly and steadily during ten years or longer and there is now sufficient experience to justify an opinion being formed as to the value of this method, its indications and contra-indications and its special advantages. On December 6, 1918, Dr. Felix Rood introduced the subject to the Section of Anæsthetics of the Royal Society of Medicine and several other authorities delivered contribution to the discussion.[1] While difference of opinion still exists concerning the alleged advantages of using dextrose solution as a diluent, unanimity has been arrived at in the selection of stovaine as the best anæsthetic substance. Dr. Rood holds strongly that the position of the patient a few minutes after the injection is immaterial. It is generally believed that unless the head and thorax are raised, there is danger of untoward symptoms developing. He has ascertained that the stovaine becomes fixed within a few minutes and that the effect of posture on the level of anæsthesia is abolished early. He advocates most emphatically the combination of spinal anæsthesia with morphine-scopolamine narcosis or with light inhalation anæsthesia. Every anæsthetist of experience recognizes that consciousness adds materially to the dangers of a patient undergoing a prolonged operation, particularly if the procedure necessitates a specially constrained position, such as the Trendelenburg position.

In assessing the dangers of lumbar anæsthesia with stovaine, Dr. Rood records two deaths in a series of 8,000 operations. In both cases a doubt was raised whether the method was applicable. The undesired effects of this anæsthesia are interference with respiration, owing to the effect of the stovaine reaching too high a level, syncope and a lowering of blood pressure and vomiting. The risk that the action of the stovaine may reach too high up the cord can be reduced to a minimum, although in very young children the margin of safety is small. Recovery, in Dr. Rood's experience, is as sudden as the onset of the untoward symptom. Syncope can be avoided to a large extent by avoiding a raised position of the head. It thus appears that with experience and regard to certain contra-indications, these special risks of stovaine spinal anæsthesia may be disregarded. He finds that the risk of pulmonary complications is not increased by spinal anæsthesia, as it is by inhalation anæsthesia. He speaks skeptically of the alleged permanent paralyses following the lumbar injections, if these are properly carried out. He is prepared to apply this mode of anæsthesia to newly-born infants and to very old people and to persons between these ages. He recognizes in well established shock a contra-indication, although shock never developed during or after an operation performed with spinal anæsthesia. He regards aortic disease or other cardiac or vascular affection associated with liability to syncope as a contra-indication. The advantages consist in greater safety, in the easier attainment of muscular relaxation, and in the avoidance of shock and pulmonary complications after severe surgical interventions. Dr. Rood, however, warns the practitioner to judge his cases individually in arriving at a decision as to the suitability of this method. He holds that it should be employed as a routine method in hospital practice for relatively mild operations, as these cases provide practice and experience, without which the value of the method for serious operations would be lost. Mr. Lockhart-Mummery believes that spinal anæsthesia will replace inhalation anæsthesia with ether or chloroform within a few years in all but remote villages and for veterinary purposes. Others hold that certain operations which cannot be safely performed with inhalation anæsthesia, can be undertaken without appreciable risk with stovaine in the spinal theca. All speakers emphasize the necessity of extreme care in technical details and avoidance of unnecessary movement of the patient.

[1] Proceedings of the Royal Society of Medicine, XII., March 5, 1919.

THE MINISTRY OF HEALTH IN ENGLAND.

The appointment of the Right Honourable Christopher Addison as the first Minister of Health in England is an event of great importance to the whole community. It is highly significant that the first Minister of Public Health in Great Britain should be a medical man. Dr. Addison is a distinguished anatomist, and was the Hunterian Professor of the Royal College of Surgeons, as well as Professor of Anatomy at the University College at Sheffield. He has held important ministerial positions during the war, and thus combines wide medical knowledge with the qualities making for a successful Minister.

We learn that the International Health Board of the Rockefeller Foundation has appointed Dr. Sawyer to the position of Director of the Hookworm Campaign in Queensland. It will be remembered that this work was inaugurated by Dr. J. H. Waite, who was unfortunately compelled to relinquish his duties about six months ago on account of ill-health. The work was continued by Dr. S. M. Lambert, another representative of the Rockefeller Foundation.

Abstracts from Current Medical Literature.

DERMATOLOGY.

(1) Sarcoid of Boeck and Erythema Induratum of Bazin.

Sweitzer and H. E. Michelson have recently been afforded an opportunity of studying both sarcoid of Boeck and *erythema induratum*, and have observed the striking similarity between the histological appearance of a subcutaneous sarcoid and those of an undoubted case of *erythema induratum* (*Journ. of Cutaneous Diseases*, February, 1919). The sections were almost identical, revealing the same type of cells, save for the fact that the sarcoid exhibited a growing tumour with vigorous cells, whilst the section of *erythema induratum* disclosed cells which were undergoing retrograde changes. Both sections resembled one another in the type of cells, and both looked like tuberculosis. They report a case of sarcoid in a female, aged 33 years, who manifested the following clinical signs. On the right cheek there was a diffuse infiltrating lesion of a livid red colour, soft to the touch and elevated above the level of the skin. On pressure with a diascope no "apple jelly" nodules could be seen. There was a similar but smaller lesion affecting the left eyebrow, whilst subcutaneous nodules could be felt above the right elbow and in the left axilla. Röntgen ray examination revealed in the hilus of the lung on both sides and around the bases of the bronchi a rather dense, uniform infiltration, which might be either a gumma or tuberculous glands. Sections were made from the diffuse infiltrating lesion on the right cheek, as well as from one of the subcutaneous nodules. In both cases there was a similar microscopical picture and the growth was seen to be divided into round or oval areas separated by connective tissue septums and composed of cells for the most part epitheloid, together with a few round cells. A negative result was obtained by inoculating a guinea pig with material obtained from one of the subcutaneous nodules, although a previous case had given a positive animal inoculation, resulting in a small tubercle. Following upon their clinical observation after a positive animal inoculation in one of their two cases and after the close microscopical appearances, they are of opinion that sarcoid of Boeck is a form of tuberculosis. They regard the multiple benign sarcoid of Boeck and the subcutaneous sarcoid of Darier-Roussy as one and the same. In both their cases they found the subcutaneous sarcoid occurring along with other manifestations and in the present case with the diffuse infiltrating type. They regard sarcoid of the extremities resembling the *erythema induratum* as the ordinary *erythema induratum* and the Spiegler-Fendt type as belonging to the neoplastic lymphoderma.

(2) The Relationship of Lupus Erythematosus to Tuberculosis.

Max Scheer and John E. Lane review the literature bearing on the relationship of *lupus erythematosus* to tuberculosis (*Journ. Cutaneous Diseases*, February, 1919). They state that Jaddasohn in 1904 concluded that there was no definite ætiological relationship between *lupus erythematosus* and tuberculosis, whilst Lewandowsky in 1912 concluded that *lupus erythematosus* was not a clinical entity, but a form of skin reaction due to some toxin, in some cases the tubercle toxin, but an unknown toxin in others. In support of this relationship a case has been cited in which inoculation of tissue from *lupus erythematosus* into a guinea pig produced tuberculosis and in the same patient 1 mg. of tuberculin gave a local and general reaction. Again, Arndt found tubercle bacilli by the antiformin method in two cases of *lupus erythematosus*. The incidence of a history or evidences of tuberculosis in *lupus erythematosus* is estimated by various writers to occur in 80% of the cases. The condition has frequently been observed to be associated with tubercular adenitis, and an amelioration of the *lupus erythematosus* following extirpation of the glands has been observed by Delbanco, Bender, Pospelow and many others. Against this relationship Jaddasohn calls attention to the constantly negative local reaction and the frequent absence of general reaction. Finger likewise has not observed local reactions to tuberculin in *lupus erythematosus*. The post-mortem findings are variable; Reitman and Zumbusch noted pulmonary tuberculosis in five out of six cases. In a case reported by Poland death resulted from acute miliary tuberculosis. On the contrary, at a number of cases observed at necropsy there has been no evidence of associated tuberculosis. The authors are of opinion that the weight of clinical evidence is against the assumed relationship.

(3) The Empyema Problem.

E. Beck deals with the question of the diagnosis of empyema (*Surg., Gynec., and Obstet.*, April, 1919). A great increase in the number of empyema cases and pulmonary abscess cases have followed the influenza epidemic in the United States. At Camp Pike there were 1,285 cases of pneumonia in twelve months, with a mortality of 9.26%; 9% of the patients developed empyema. The empyemata occurred at times at a late date; after the patient had apparently recovered, an empyema was seen to develope. Radiography is essential for the early recognition of the complications. The following are the radioscopic appearances in the conditions described: (1) Unresolved pneumonia. A dense shadow corresponding to one of the five lobes. (2) Broncho-pneumonia. Both lungs are involved and there are scattered areas of mottling seen, just as are seen in tuberculosis. (3) Fluid. A dull, dense shadow, which varies in level as the position of the patient is altered. The lung is compressed mesially and towards the apex. Frequently the space above the fluid is quite clear, due to the association of a pneumothorax. The costo-phrenic angle is obliterated. The patient should be examined in the sitting or standing position. Simple fluid cannot be distinguished from pus by radiological examination. (4) Lung abscess. This may be present for long periods before recognition. A dull shadow not corresponding to a lobe outline is found. After the evacuation of its contents a lighter central area is seen. (5) Pneumothorax. A clear area is present where the lung has retracted, and the collapsed lung may be seen towards the mid-line and the mediastinal contents are displaced to the opposite side. (6) Pulmonary tuberculosis is very difficult to distinguish from a broncho-pneumonia with abscess. The tubercular markings are generally finer and have a more linear appearance, corresponding to the bronchial distribution of lymphatics and small calcified areas are often seen in the more chronic process. Radioscopic examination should always precede exploratory puncture.

(4) Streptococcus Empyema.

W. S. Stewart discusses the form of empyema induced by infection with streptococci and refers to the appearances on examination with Röntgen rays (*Amer. Journ. Röntgenol.*, February, 1919). He bases his article on the study of cases occurring in the military camps during the epidemic of influenza. In post-influenzal pneumonia there is a tendency to sub-pleural abscesses, which may rupture into the pleural cavity and cause empyema. The empyema may occur during the pneumonia and without a radiological examination the presence of fluid may be missed, as the subjective symptoms do not reveal whether the pneumonia is complicated by fluid or not. The pleural effusions appear as ribbon-like bands in the lateral part of the chest, and as the fluid increases it eventually fills the lower part of the cavity and obliterates the costo-phrenic angle. At first, clear lung may appear above the fluid, but later, as it increases, the whole of the affected side becomes dull and the heart and mediastinal contents are displaced to the opposite side. An investigation committee reported against early operation and advised repeated puncture and evacuation of fluid whenever the signs of lung pressure called for it. If this course is followed, the empyema becomes walled off and localized. Localization by Röntgenoscopy is always performed before puncture or thoracotomy. Persistent sinuses are due to necrosis of ribs or calcification of the sinus opening, too long a retention of drainage tubes, imperfect drainage, pleuro-pulmonary fistula, foreign body or large rigid wall to the cavity. Bismuth paste injections are used for defining the extent of the cavity, but are not recommended by the author as a means of treating persistent sinuses.

BIOLOGICAL CHEMISTRY.

(5) Compounds of Hæmatoporphyrin.

J. A. Milroy describes the methods of preparation and the absorption spectra of some compounds of hæmatoporphyrin with the metals, zinc, cadmium, nickel, cobalt, iron, copper, tin and lead (*Biochemical Journal*, December, 1918). Hæmatoporphyrin forms three kinds of compounds. It combines with mineral acids to form crystalline salts in which the pigment acts as a base; it unites with alkalies to produce salts in which the colouring matter functions as an acid radicle, and it gives rise to the metallic combinations in which the metal forms a more or less stable organic compound, but no longer exists as an ion. The absorption spectrum of hæmatoporphyrin in alkaline solution is probably that of the anion, while the absorption bands of acid hæmatoporphyrin are probably to be regarded as those of the cation. These varieties of hæmatoporphyrin are readily converted from one type to the other. A third variety, of which the spectrum was described by Garrod under the name of metallic hæmatoporphyrin, is a stable compound produced as a result of an irreversible reaction. The author deals with the spectroscopic characters of a number of synthetic compounds of pure hæmatoporphyrin prepared by Nencki's method with metallic hydroxides. These substances are similar in constitution to the metallic hæmatoporphyrin occasionally found in the urine of human beings. Among these bodies is a stannous compound, which can also be prepared direct from hæmatin. The author suggests that this test be used as a delicate test for the presence of blood. The test can be carried out in the following manner, which exhibits the steps of the reaction. A drop of ox blood is mixed with a few drops of glacial acetic acid in a test tube. The mixture is boiled, after which it reveals the spectrum of acid hæmatin. Three drops of a solution of stannous chloride are added and the solution is again heated to the boiling point. A precipitate is allowed to settle or removed by filtration. The filtrate or solution shows the bands of acid hæmatoporphyrin. A little solid sodium acetate is added and the mixture once more boiled. The fluid becomes a brighter red in colour. On spectroscopic examination the two characteristic bands of the stannous derivative are visible. They lie approximately in the position of the bands of oxy-hæmoglobin. Comparative tests showed that these bands are readily obtained with a solution containing one part of blood in 5,000 of diluent, whereas the test for hæmochromagen yields no bands at a similar dilution, but bands with a dilution of 1 in 2,000.

(6) The Proteins of Milk and Serum.

H. W. Dudley and H. E. Woodman have studied the relationship between the globulins in the colostrum of the cow (*Biochemical Journal*, December, 1918). In a previous investigation they brought forward some evidence to demonstrate that the caseinogen of the sheep is not identical to that of the cow. The data were obtained by a study of the optical properties of the amino-acids derived from the racemized caseinogens of the two animals. The same method has been used to elucidate the connexion between the proteins in milk and in serum. The globulins in colostrum and in serum consist of a mixture of two proteins characterized by different physical qualities and solubilities. These proteins are known as euglobulin and pseudoglobulin. It has been suggested by Miss Chick that these proteins are closely related and that euglobulin is derived from pseudoglobulin by a process of denaturation. Later work has added more force to this suggestion. The authors advance further evidence that the globulins of colostrum, as those of serum, are closely related, if not identical. They have compared the optical rotatory properties of euglobulin and pseudoglobulin in alkaline solution and have made a study of the optical properties of amino-acids obtained by hydrolysis from the proteins when they have been racemized by treatment with alkalies. Both proteins exhibit the same behaviour in respect to optical properties when dissolved in different strengths of soda and potash. After hydrolysis the amino-acids isolated have been found identical in optical activity, thus showing that they occupy similar positions in the peptide constitution. The authors draw attention to the result of Hartley, who showed that euglobulin contains phosphorus, which is absent from pure pseudoglobulin. They suggest that this phosphorus lies in the part of the molecule which is not of a protein nature.

(7) Proteins of Cow's Milk.

L. S. Palmer and R. G. Scott have made a study of the state of suspension of the proteins in cow's milk (*Journ. Biol. Chemistry*, February, 1919). They have failed to find evidence to support the hypothesis of Van Slyke and Bosworth that the albumin of cow's milk is partly in true solution and partly in suspension, the suspended portion being absorbed by the caseinogen when the milk is fresh, but passing into true solution when the milk sours or when formalin is added to milk to prevent putrefaction. The authors find that porcelain filters of fine porosity completely remove the lact-albumin from the filtrate of milk. They point out that they test their filters previous to use to determine the absence of "leakage" and that they use fresh milk from the cow and not "fresh" milk containing 5% chloroform as a preservative. The authors advance evidence to show that the presence of 5% chloroform in milk alters the physical state of the proteins and renders the estimations of the quantities of proteins inaccurate. Experiments have been performed with skim milk, the same milk preserved with 5% chloroform, the same milk preserved with 0.05% formaldehyde and with lactic acid whey from the skim milk. These fluids have been filtered under pressure through Pasteur-Chamberland candles. The proteins in the filtrates have been estimated by Almen's tannic acid reagent and the non-protein nitrogen in the filtrate from the precipitate formed with this reagent. Little protein appeared in the filtrate, the quantity varying with the porosity of the filter but lying below 10% of the proteins in the milk other than casein.

(8) Antitryptic Action of Serum.

W. J. Young (*Biochemical Journal*, December, 1918) has made a study of the antitryptic effects of blood-sera in diminishing the digestion brought about by solutions of trypsin. The sera that have been used are those of the goat, dog and sheep. The trypsin has been prepared from ox pancreas or purchased in the preparations of Fairchild Brothers and Forster and of Grübler. The digestions have been carried out with caseinogen. The amount of digestion has been estimated by precipitating the caseinogen solution with tannic acid before and after incubation and by estimating the nitrogen in the two filtrates. The difference shows the quantity of dissolved nitrogen and is a measure of the amount of digestion. Different preparations of trypsin of equal digestive potency have not been inhibited to a like extent by the addition of equal quantities of serum. The addition of increasing amounts of serum does not lead to an inhibition proportional to the increments of serum. The inhibitory action becomes less and less until the further addition of serum has no effect. In no case has it been possible to inhibit completely the action of trypsin. The author has attempted to increase the antitryptic action of the serum of goats by repeated injections of trypsin. He has not, however, been able to note any increase as a result of parallel comparative experiments.

(9) Estimations of Sugar.

H. D. Haskins has introduced some modification in the methods for estimating the quantity of glucose in urine devised by Benedict and Folin (*Journ. Biol. Chemistry*, February, 1919). The method of Benedict gives good results for the measurement of sugar in urine when the concentration of glucose is above 0.2%. Folin's modification is useful for micro-titrations. The author has used sodium thiocyanate in place of potassium thiocyanate in the proportion of 105 gm. in place of 125 gm. in the preparation of Benedict's solution. The results have given the same accuracy as with the original solution. When, however, sodium thiocyanate is introduced into Folin's reagent in the equivalent proportion the results are invariably too low. The error could be greatly diminished by diminishing the amount of sodium thiocyanate and by increasing the period of ebullition half as long again as directed by Folin. In the micro-estimation the author uses 4 gm. of a salt mixture containing 20 gm. sodium thiocyanate, 60 gm. dry sodium carbonate and 100 gm. disodium phosphate.

British Medical Association News.

SCIENTIFIC.

A meeting of the Victorian Branch was held at the Medical Society Hall, East Melbourne, on June 4, 1919, Dr. J. F. Wilkinson in the chair, in the absence of the President.

Dr. B. T. Zwar read a paper on "Army Medical Service; Prevention of Venereal Disease" (see page 1).

Dr. A. E. Morris read a paper on "Army Medical Service; Prophylaxis and Treatment of Venereal Disease" (see page 3).

Dr. A. F. Jolley said that in spite of all that was done in relation to venereal prophylaxis, there would inevitably be some failures. The instructions and warnings given by systematic lectures were only too often forgotten by men on leave, with money in their pockets, especially when they were under the influence of alcohol. He had found that another influence militating against the beneficial results of lectures, was that sometimes exerted by men who had formerly sustained a venereal infection and had become apparently cured. These men, in his experience, frequently represented the disorder as trivial, exhibiting their own individual cases to their comrades in support of their statements.

His experience of prophylactic measures had been likewise disappointing, for reasons very similar to those that tended to neutralize the effect of educative measures, *viz.*, the forgetfulness of men on leave, possibly drunk, and exposed to solicitude by harlots. He had even been acquainted with instances of men deliberately contracting a venereal infection in order to avoid being sent into the line.

For the foregoing reasons, he had come to rely on early treatment as a more effective means of minimizing venereal disease. By the application of this measure, most satisfactory results had been obtained. In his unit at Mena Camp, all men who had been on leave were paraded on the following morning, and individually questioned as to exposure to infection and the measure of prophylaxis applied. Provided the precautions adopted were satisfactory to the medical officer, nothing further was attempted. If the precautions were not satisfactory, the men were given irrigations of solution of potassium permanganate every four hours by means of a two-way nozzle, with a can attached. These irrigations were continued for 48 hours, and he could say that no man treated developed gonorrhœa. In fact, the only cases of gonorrhœa in their unit occurred in men who had overstayed their leave, and consequently could not be given early treatment.

Dr. Jolley proceeded to remark that with regard to soft chancre, which in Egypt was often phagedænic, he did not think that calomel ointment was of any use if applied even immediately after exposure to infection. But on the contrary it was most efficient if applied before intercourse. He had often found these lesions extremely resistant to treatment, and the best results invariably followed treatment with peroxide of manganese and subsequent dusting with iodoform powder. With such measures he had known bad lesions heal in a week.

He wished to add a word regarding measures adopted in France. There they planted early treatment posts in as many towns, villages and camps as possible; trained orderlies were installed at these posts, and the men were instructed to report to the nearest post as soon as possible after incurring risk of infection. The amount of work carried out at the early treatment stations might be judged from the fact that, when the unit was on leave in Amiens after Bullecourt, an average of 300 men *per diem* received early treatment.

He certainly saw a good deal of syphilis among men who had used calomel ointment at once, but enquiry showed that the majority of these instances were in men also affected with scabies, and they had used a calomel ointment with a vaseline base, instead of that with a lanoline base.

In conclusion, Dr. Jolley stated that he did not think that the issue of prophylactic outfits encouraged licence. In his opinion, any action leading to the diminution of veneral disease was justified. It must be remembered that the main object was to keep men fit for service.

Dr. M. B. Johnson had followed the papers of Dr. Zwar and Dr. Morris with much interest.

He wished to place before the meeting some figures relating to the part played by alcohol in the incidence of venereal disease. He had controlled a camp through which 4,000 men had passed in a period of four months and could answer for the accuracy of the statement that of 2,500 men concerning whom strict enquiry had beer made, 60% stated that they were more or less under the influence of alcohol at the time of contracting the disease.

He was able to add some information concerning Dr. Zwar's comment as to the relatively small incidence of syphilis in Egypt, from a French medical paper, which stated that syphilis among the Arabs was of a uniformly mild type, mainly affecting the eyes and skin.

With regard to prophylaxis, he was convinced that the personal interest of the medical officer in a given unit was the main factor making for successful results. He had been greatly impressed with the work of Major N. Gibson, who, during his term had remarkably few cases of venereal disease in his unit; in fact, the numbers were so low as to be scarcely credible. He considered that this excellent result was due to the fact that Major Gibson was always willing to administer skilled prophylaxis to any man at any time of the day or night.

Dr. Morris had stated that a minimum period of 56 days was essential for treatment, in all but the simplest cases of gonorrhœa. His own experience was confirmatory and he had found that a large proportion of recurrences developed among those discharged under six weeks.

In conclusion, he would like to make an enquiry of Dr. Morris, relative to his experience of ionization in chronic cases of gonorrhœa.

Sir James Barrett said that he was greatly interested in the papers of Dr. Zwar and Dr. Morris. They made it quite clear that they dealt only with the failures of prophylaxis and they were unaware of the percentage of soldiers who had employed the method. It was more than likely that no one in the Army really knew the extent to which prophylaxis had been used and the percentage of failures. They knew by experiment that, so far as apes were concerned and even so far as men were concerned, prophylaxis was absolutely certain in its results if applied according to the methods of science. It was clear, then, in the cases in which it had failed, the cause was human fallibility. He quite agreed with Dr. Johnson that the success of the method depended on the sympathetic educational means adopted by the officers commanding. In his experience primary prophylaxis had been entirely successful where men had been carefully educated so that they understood the nature and life history of these diseases and what it was they were trying to do. The method of the ablution room, or secondary prophylaxis as it was sometimes called, was often really more effective because it was under medical direction and conducted by trained orderlies. Dr. Zwar had rightly said that no steps of the kind would be effective unless there was adequate trained organization. With that he agreed entirely and in Egypt up till the middle of 1917 there was nothing of the kind. There were many instances of honest, hard-working sporadic efforts, but the matter was not dealt with systematically. The high water mark of venereal disease was reached in March and April, 1916, when infections were very severe. The Hospital at Abbassia contained over 2,000 Australian men. The Cairo Purification Committee was then appointed, proper steps were taken and the disease fell to small proportions. Again attention slackened, and with the advance into Palestine there was a renewed outbreak. Again attention was directed to it and the most thorough and adequate steps with which he was acqainted, were taken. On this occasion, there was no form of attack on the disease that was omitted, whether moral, or physical, and the disease was brought under control. In view of the enormous amount of damage done by these diseases to the Army he was greatly impressed with the necessity of placing their prevention and management entirely under one senior officer, who should be called Acting or Deputy Director Medical Services for venereal diseases, and who should be responsible for obtaining the knowledge of the very numerous problems, social, moral and physical which were associated with these sources of destruction. Such an officer with a trained staff would be invaluable. Something of the kind had been done in Great Britain by the appointing of Lieutenant-Colonel Harrison, but even more extensive action was necessary and such an

appointment should be regarded as one of the fundamental appointments in the Army Medical Service. His own experience, summarized in the recent lecture delivered in London to the Royal Society of Medicine, had convinced him that the appointment of such an officer with staff and the use of prophylaxis would reduce this source of wastage to comparatively small proportions.

In conclusion, he desired again to endorse Dr. Zwar's observations respecting the futility of isolated attacks and the necessity for dealing with the problem by means of an educated and organized personnel.

Dr. J. Ramsay Webb remarked that no medical man who had not seen service abroad, could have any conception of the magnitude of the problem they had been considering. He recalled an experience at Bulford and paid a tribute to the work of Dr. Morris in that hospital. The incident referred to was the visit of a General of large experience to the Bulford Hospital. On that particular day the large majority of the men were out in the streets formed by the row of huts. Never till then had the visiting officer realized the enormous prevalence of the venereal question. At the time the equivalent of a battalion of men were at Bulford, a battalion lost to the Army. There were always 1,200 or more men at this hospital, and the administrative problems were at times very difficult. The question would arise as to when a man was cured, and the seven or eight weeks rightly insisted on by medical officers was far too long to please Headquarters, who naturally would have preferred two weeks' detention for the men.

Again, should men with "gleet" be sent back into the line? It was found that the men in the line objected, and consequently it became a matter for serious consideration as to whether or not disciplinary battalions should be established, on the Continental plan, for men partially cured of gonorrhœa. In the case of syphilis, it was ultimately decided that men with non-infective and not obvious lesions should be given, at least, part time duty.

These were some of the problems besetting the administrative medical officers, and he could assure the meeting that they were at times very pressing.

With regard to prostatitis, he confessed that he had been sceptical as to its frequency until, upon one occasion, he took advantage of an opportunity of examining a series of gonorrhœa patients, all of whom had acquired the disease comparatively recently. He was somewhat surprised to find that every one had a palpably enlarged prostate; he had not realized before that it was so early and so frequent a complication.

Dr. Zwar, in reply, said that he had hoped that his remarks would have evoked more discussion by men with actual experience of preventive measures in regard to venereal disease. He had been particularly interested in Dr. Jolley's observations of that evening and, indeed, at Mena, he had been much impressed with the low incidence of venereal disease in the unit to which Dr. Jolley was attached. Of 300 men at Mena, 139 had soft sore infections; his experience was similar to Dr. Jolley's, in that he found a large proportion of the lesions were in the region of the *frænum præputii*.

He contended that the experiences quoted by Dr. Jolley, Dr. Johnson, and Sir James Barrett were a strong argument in favour of organized training and education; the place to do this was the training camp of the Citizen Forces. Such educative training should not be confined to the Army Medical Service, but should extend to combatant officers and men, and particularly include junior officers and non-commissioned officers.

He had found his own training quite insufficient for many of the problems which had presented themselves, though he had had the advantage of years of experience in the out-patients' department of a large metropolitan hospital.

In conclusion, he agreed with Sir James Barrett on the question of an officer in charge of measures against venereal disease.

In his reply, Dr. Morris stated that he had found soft sore infections very frequent and often resistant to treatment, the resulting buboes being especially difficult of cure. His experience of ionization was limited, and he had not yet been able to satisfy himself as to its efficacy. An allied plan of treatment was that advocated and practised by Russ and consisted in passing a current through solutions kept in the urethra for half to one hour. Such instances of the application of this method as he had seen had not been very convincing.

He wished to state that in Cairo, an attempt was made to identify women (prostitutes) who infected members of the Australian Imperial Force; the former were subsequently apprehended and, if they were diseased, interned in the Lock Hospital. As a result, many such women migrated from Cairo and possibly this measure contributed towards the decline of venereal disease.

There was no question as to the value of early treatment, but men who knew that it meant detention and loss of pay, would often not report their infection; he felt sure that if pay were not stopped, more men would report for early treatment.

Miss Mavis Victoria Grant, M.B., Ch.M. (1918, Univ. Sydney), Renwick Hospital, Thomas Street, Sydney, has been elected a member of the New South Wales Branch.

R. V. Hennessy, Esq., M.B., Ch.B. (1918, Univ. Melb.), Marine Parade, St. Kilda, and R. M. Shaw, Esq., M.B., Ch.M. (1918, Univ. Melb.), Melbourne Hospital, have been elected members of the Victorian Branch.

The undermentioned have been elected members of the South Australian Branch:—

Harold Frank Dunstan, Esq., M.B., B.S. (1915, Univ. Adel.), Renmark, River Murray.

E. Brookes, Esq., M.B. (1891, Univ. Melb.), Stradbroke, Magill.

Samuel H. Hulahan, Esq., Lameroo.

Miss Phyllis D. McGlew, M.B., B.S. (1918, Univ. Adelaide), c/o. Messrs. McGlew & Company, Waymouth Street, Adelaide.

STATISTICS OF THE INFLUENZA EPIDEMIC.

Attempts have been made to ascertain the extent and mortality of the epidemic of influenza in the several Australian States on the basis of the number of cases notified. We have recorded the figures supplied to us by the Departments of Public Health in the six States, but unfortunately even these returns have reached us somewhat sporadically. From the first it became evident that no information of value would be gained from this source. In the majority of the States notification has not been carried out in such a manner as would enable the authorities to compile a complete record. In South Australia a curious differentiation has been drawn between "influenza," "*influenza vera*," "pneumonic influenza" and even suspected influenza. In New South Wales only pneumonic influenza has been notifiable. We presume that by this is meant influenza complicated with pulmonary lesions.

A much more accurate method of assessing the extent and violence of the epidemic may be gained from the deaths that are registered. From the available figures it is evident that some deaths directly or indirectly due to epidemic influenza have been registered under some other rubric. For instance, the total number of deaths from influenza registered during the month of April, 1919, in the metropolitan district of Sydney was 881. The death-rate from all causes for the month was equivalent to an annual rate of 25.49‰ of population. This may be taken at 15‰ more than usual. In other words there were approximately 991 more deaths in this month than usual. Influenza is said to have accounted for 881 of them. The number of deaths from pneumonia recorded during the month was 66, as compared with 31 in April of 1917. It is reasonable to assume that deaths registered as having been caused by tuberculosis, cardiac disease and other common affections have embraced the remaining 75 deaths and that influenza probably played an indirect part in their determination. Below we publish a table compiled from the official figures, showing the number of deaths from influenza and from pneumonia and broncho-pneumonia in New South Wales and Victoria and for the easier comparison a calculation of the sum of these deaths per million of population.

A better understanding of this table will be gained by a study of the following table which deals with the Victorian figures.

Table I.—Deaths from Influenza, Pneumonia and Broncho-Pneumonia in New South Wales and Victoria.

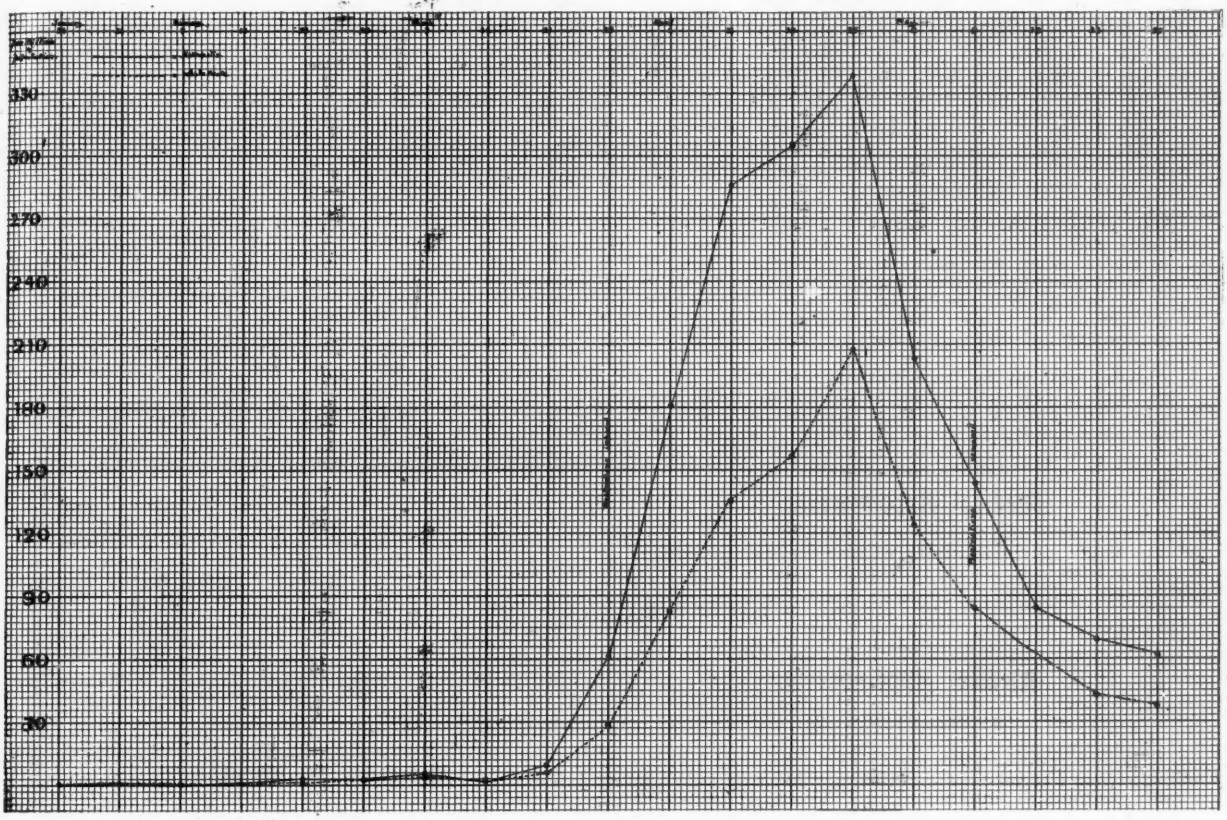
	1917				1918				1919			
	Influenza.	Pneumonia.	Total.	Rate per Million.	Influenza.	Pneumonia.	Total.	Rate per Million.	Influenza.	Pneumonia.	Total.	Rate per Million.
January—												
New South Wales	9	64	73	39.2	6	68	74	39.1	2	77	79	40.9
Victoria	3	38	41	29.3	2	58	60	42.5	30	75	105	80.0
February—												
New South Wales	3	51	54	29.0	0	50	50	26.4	14	36	50	25.9
Victoria	0	28	28	20.0	0	51	51	36.1	476	71	547	364.7
March—												
New South Wales	6	69	75	40.3	3	45	48	25.4	78	61	139	72.0
Victoria	2	33	35	25.0	2	56	58	41.1	206	43	249	166.0
April—												
New South Wales	3	62	65	34.9	4	65	69	36.5	1,074			
Victoria	4	51	55	39.3	5	71	76	53.8	778	153	931	620.6
May—												
New South Wales	7	83	90	48.4	9	68	77	40.7	712			
Victoria	2	41	43	30.7	2	77	79	55.9	682	114	796	517.3
June—												
New South Wales	6	100	106	57.0	12	115	127	67.2				
Victoria	6	44	50	35.7	9	63	72	51.0				
July—												
New South Wales	8	150	158	85.4	17	165	182	96.3				
Victoria	5	70	75	53.6	6	115	121	85.7				
August—												
New South Wales	13	130	143	76.9	13	134	147	77.8				
Victoria	10	66	76	54.3	9	108	117	82.9				
September—												
New South Wales	14	125	139	74.8	92	186	278	147.1				
Victoria	14	76	90	64.4	50	125	175	124.0				
October—												
New South Wales	12	95	107	57.5	131	146	277	146.6				
Victoria	5	63	68	48.3	84	112	196	138.9				
November—												
New South Wales	3	79	82	44.1	26	74	100	52.9				
Victoria	10	59	69	49.3	33	76	109	77.2				
December—												
New South Wales	5	55	60	32.3	16	78	94	49.7				
Victoria	5	54	59	42.2	8	72	80	56.7				

Mortality Curve of Influenza in Victoria and the Metropolis of Melbourne.

Table II.—Deaths from Influenza and Pneumonia in Victoria.

	1913.	1914.	1915.	1916.	1917.	1918.	1919. (5 months.)
Influenza ..	67	106	67	70	47	210	2,172
Pneumonia ..	767	863	865	767	656	984	456
Total ..	834	969	932	837	703	1,194	2,628

It will be seen that the New South Wales outbreak followed practically the same course as that in the sister State and that the restrictions imposed early did not influence either its duration or its severity. When the figures are available, we hope to publish a similar curve dealing with the present outbreak in New South Wales.



Mortality Curve of Influenza in New South Wales and the Metropolis of Sydney.

The first wave of the influenza epidemic appeared in September and October, 1918, and apparently affected the whole of the Commonwealth. It is stated that the infection was very prevalent at that time. If this can be taken literally, it leads to the deduction that the mortality was very low. We have information to the effect that in the month of November one case at least of influenza with atypical pulmonary signs and marked violet colour of the skin, ending fatally within a few days of the onset, was seen in Sydney. Another typical instance of the severe epidemic form of disease with lung complications was observed in the country, long before the disease again became epidemic. By the end of the year there were only sporadic cases of influenza in New South Wales and Victoria and the death-rate reached a low level. The disease reappeared first in Victoria. A glance at the table raises a doubt whether the renewed infection was imported from abroad. A continuous source of infection was present, while some of the cases in the interval between the first and second waves were apparently of a very severe type.

From the records of the deaths it seems that in January and February of 1919 New South Wales was not visited by an epidemic of a fatal form of influenza. There were but two deaths in January and 14 in February. In Victoria, on the other hand, the disease assumed epidemic proportions and died down after a course of between 8 and 9 weeks. The curves show the course of this outbreak as well as that of the outbreaks in the two States in March, April and May.

Obituary.

CHARLES SAVILL WILLIS.

Death has removed one of the most highly placed civil servants in New South Wales, Dr. C. S. Willis, Principal Medical Officer to the Department of Public Instruction, who succumbed to influenza at Neutral Bay upon June 23, 1919.

Charles Savill Willis was born at Parramatta, New South Wales, in 1871, and was educated at Newington College, Sydney. He studied medicine at the University of Sydney, where he had a distinguished career, gaining the John Harris Scholarship in anatomy and physiology. He graduated at the end of 1898. For a time he served as a resident medical officer at the Sydney Hospital and later at the Royal Prince Alfred Hospital. For some months he was Medical Superintendent at Newcastle Hospital. In October, 1900, he married Miss K. Stonham, B.A., Sydney, and commenced practice at Wyalong, New South Wales. Later he followed his profession at Claremont, Queensland, and at Mount Magnet, Western Australia. In 1905 he visited England, where he continued his medical studies, taking the M.R.C.S., England. At University College he devoted attention to the study of public health, in which he had always taken a special interest. He obtained the Diploma of Public Health of the Conjoined Board. On his return to New South Wales he joined the Depart-

ment of Health as Principal Assistant Medical Officer, serving under the late Dr. Ashburton Thompson. He remained in this position until he was called, in February, 1914, to organize the school medical services of the Department of Public Instuction. During four strenuous years he carried on this work with characteristic energy and devoted himself strenuously to the task with which he had been entrusted. During the last few months he suffered from insomnia, which may have diminished the vitality of his constitution and rendered him less able to withstand the prevailing infection.

After his return to Sydney, Dr. Willis was interested in the scientific progress of medicine in New South Wales. In 1911 he contributed a paper to the Royal Society of New South Wales on the use of the nitrate figure in determining the value of drinking water. For some years he acted as Secretary to the Section of Public Health and Kindred Sciences of the Royal Society and succeeded in arousing a continuous interest in the hygienic development of the State. In 1916 he was appointed a member of the New South Wales Medical Board.

In 1900 he joined the Australian Army Medical Corps and was transferred to the Reserve of Officers in 1905 with the rank of Captain. When war broke out he wished to go upon active service, but at the urgent request of the educational authorities of the State, he refrained from offering his services.

Charles Savill Willis was an energetic servant of the State, who never spared himself in the service of the community. In an oration beside the open grave Canon Bellingham said that with Dr. Willis life meant service and duty, a fitting epitaph to a strenuous career.

Medical Appointments.

The Board of Public Health of Victoria has approved of the appointment of Dr. A. H. Thwaites (B.M.A.) as Officer of Health for the Shire of Benalla.

Dr. J. Coen (B.M.A.) has been appointed Government Medical Officer at Lismore, New South Wales.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital.
TASMANIA. (Hon. Sec., Macquarie Street, Hobart.)	Medical Officers in all State-aided Hospitals in Tasmania.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec. 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

July 8.—N.S.W. Branch, B.M.A., Ethics Committee.
July 11.—N.S.W. Branch, B.M.A., Clinical.
July 11.—Q. Branch, B.M.A., Council.
July 11.—S. Aust. Branch, B.M.A., Council.
July 15.—Tas. Branch, B.M.A., Branch and Council.
July 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
July 16.—W. Aust. Branch, B.M.A., Branch and Council.
July 17.—Vic. Branch, B.M.A., Council.
July 18.—Eastern Suburbs Med. Assoc. (N.S.W.).
July 19.—Northern Suburbs Med. Assoc. (N.S.W.).
July 22.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
July 25.—N.S.W. Branch, B.M.A..
July 25.—Q. Branch, B.M.A., Council.
July 30.—Vic. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney.

The Secretary of the Victorian Branch is endeavouring to secure copies of the issues of the *British Medical Journal* of the following dates, to complete a file for one of the members. We shall be grateful to any of our readers who has a spare copy of any of the numbers sought, if he will offer them to the Secretary of the Branch:—

1915: April 3 and 10; July 10, 17, 24, 31; August 7 and 21.
1916: July 8, August 5 and 12, November 18.